

Fungi from prof. Warmings expedition to
Venezuela and The West-Indies.

By

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The fungi below mentioned, which were brought home by prof. Warming's expedition to Venezuela and The West-Indies 1891—92, are collected partly in Venezuela, especially in the neighbourhood of Las Trincheras, partly in the islands of Trinidad and Barbadoes¹⁾; besides prof. Warming himself, the late baron Eggers and especially the late cand. Holger Lassen (H. L.) have participated in the collections; further a few specimens have been recorded by mag. C. Levinsen (cfr. text). The records from The Danish West-Indies are not treated in this paper, as the authors intend to give collectively a more exhaustive list of the fungi from here on a subsequent occasion. The number of species determined comes to 34, among which 4 new; of these again 2, *Myxotheca hypocreoides* and *Stilbochalara dimorpha* represent types of new genera. — Besides, we have examined several fungi of the families *Auriculariaceae*, *Tremellaceae*, *Polyporaceae* and *Pezizaceae* without its being possible, however, to determine the species with any certainty. The system and the synonymy used in our paper agree with those of Saccardo.

Phycomycetae.

Cystopus Ipomaeae-panduratae (Schw.) St. et Sw.

On leaves of *Ipomaea pes caprae* Roth.: Barbadoes, 11. 11. 91.

¹⁾ A single species only, namely *Pilocratera tricholoma* (Mont.) was also collected in Colombia.

Rhizopus nigricans Ehrbg.

On leaves and bark in a garden near Las Trincheras. — On a cacao-fruit: Las Trincheras, 25. 12. 91.

Basidiomycetae.

Aecidium Cissi Wint.

On leaves of *Cissus? sicyoides* L.: Las Trincheras, 15. 12. 91. — On *Cissus sicyoides* L: Barbadoes, November. — On a not determined host-plant: Barbadoes, near Bathseba.

Calocera palmata (Schum.) Fr.

Barbadoes: On a sleeper near Bathseba, 7. 11. 81 (H. L.).

Clavaria fistulosa Fr.

The spores on an average $11-13\mu \times 7\mu$; the fungus has quite the same appearance as our Danish species.

Caracas, June 91 (Eggers).

Hirneola auriformis (Schw.) Fr.

No locality, 31. 1. 91 (H. L. and Levinsen).

Hirneola fusco-succinea Mont.

Trinidad, Maravalli Valley, 30. 11. 91 (H. L.).

Hirneola nigra (Schw.) Fr.

Las Trincheras, 15. 12. 91 (H. L.).

Hirneola polytricha Mont.

? Las Trincheras, December 91 (H. L. and Levinsen).

Polystictus sanguineus (L.) Mey.

Las Trincheras: 2. 12. 91 (H. L.). — Trinidad, Botanical Garden (H. L.).

Schizophyllum commune Fr., forma.

On a dry branch in company with *Nectria subquaternata* B. et Br.: Las Trincheras, 14. 12. 91 (H. L.).

Schizophyllum multifidum (Batsch) Fr.

A somewhat differing form on a bamboo: Trinidad, Maravalli Valley, 30. 11. 91. (H. L.).

Thelephora palmata (Scop.) Fr.

Venezuela (Eggers nr. 12361).

Tremella fuciformis Berk.

Trinidad, Maravalli Valley, 30. 11. 91 (H. L.).

Xerotus tomentosus Kl.

On earth: Trinidad, Botanical Garden, 28. 11. 91 (H. L.).

Ascomycetae.

Anthostomella Puiggarii Speg.

Our specimens of this fungus, which show quite the same macroscopic appearance as the above species, differ as to the microscopic characters by having somewhat less compressed spores. Further Spegazzini states the species *A. Puiggarii* as "aparaphysata", while our fungus — as typically in the genus *Anthostomella* — shows paraphyses, $\frac{1}{2}\mu$ crass.

On leaves of *Bambusa*: Trinidad, Maravalli Valley.

Cordyceps sp.

Stroma intensely yellow, slender, clavate with sterile pointed apex, 3—4 cm. in height, 2—3 mm. thick. The fruit unripe.

On a larva of *Chalcolepideus porcatus* from rotten wood: Las Trincheras 21. 12. 91 (C. Levinsen).

Dimerosporium eutrichum Sacc. et Berk.

On the under side of leaves of *Borreria* sp.: Trinidad, Maravalli Valley.

Glaziella vesiculosa Berk.

The orange-yellow, hollow, irregularly roundish, rugose fruit-bodies were, as commonly occurring, sterile.

On a rotten stub of a tree: Trinidad, Maravalli Valley, 28. 11. 91 (H. L.).

Glonium microsporum Sacc. var. **americanum** Starb.

On naked wood: Las Trincheras, 25. 11. 91 (H. L.).

Helotium (Helotiella) discula sp. n. — fig. 1.

Ascomatibus gregariis, sessilibus, juvenilibus cupulatis, maturis discoideo-explanatis, disco subconvexo, carnosulis, ad 750μ diam., flavidis vel (in sicco) succineis, extus glabris. Asci cylindraceo-clavatis, sessilibus, $43-56\mu \times 4^{3/4}-6^{1/2}\mu$, sporidia nonnumquam 8, sæpius — nonnullis frustratis — pauciora foveantibus. Sporidiis oblique monostichis, fusiformibus, utrinque acutiuscule rotundatis, primo bi-guttulatis, ad maturitatem medio 1-septatis, non constrictis, $10^{1/2}-14\mu \times 2^{1/2}-3^{3/4}\mu$, hyalinis. Paraphysibus filiformibus, aseptatis, circ. 1μ crass., hyalinis, superne in clavulam usque 5μ crassam, substantia oleosa, flavida repletam subito dilatatis, ascos parum superantibus. Membrana tota ascorum nec non paraphysibus jodi ope intense coerulescentibus.

Ad lignum subputridum decorticatum prope Las Trincheras Venezuelae (Leg. H. Lassen).

Las Trincheras, 25. 12. 91 (H. L.).

Lembosia Agaves Earle.

Our spores have at the full-ripe stage (totally brown) an average size of $17-20\mu \times 7-9\mu$ (against $14-16\mu \times 6-7\mu$ in Earles diagnose). The young asci are strongly thickened in the apex.

On *Agave* sp.: Loc. unknown, 18. 2. 92.

Leptosphaeria saccharicola
P. Henn.

Our fungus on leaves of *Saccharum officinarum* shows quite the same characteristic macroscopical aspect as the above species, what also has been confirmed by comparing a type specimen of *L. saccharicola* Henn., benevolently committed to us by the Botanical Museum of Berlin. — Our asci are a little narrower ($8-10\mu$ against $12-15\mu$) and the spores somewhat broader ($5-5^{1/2}\mu$ against 4μ) as stated in Hennings' description of the species; unfortunately the type specimen examined did not contain any asci.

A type specimen of *Sphaerulina Sacchari* P. Henn., likewise sent to us from Berlin, is thoroughly identic with the above species as to the

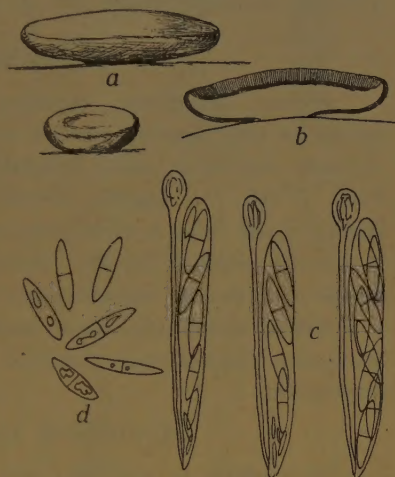


Fig. 1. *Helotium discula* sp. n.
a: Ascomata; b: Vertical section through an ascoma; c: Asci with paraphyses; d: Spores.
(a and b: circ. $400\times$; c and d: $700\times$).

macroscopic aspect; in microscopic regards, however, the two species are undoubtedly differing from each other, in spite of several coincident characters.

On leaves of *Saccharum*: Trinidad, Maravalli Valley.

Meliola brasiliensis Speg.

Spores on an average $15-16\ \mu$ in breadth (against $18-20\ \mu$ in the type); sometimes are occurring perithecia, whose setae are provided with small stellated branches in the apex.

On *Hura crepitans* L. and various leaves of indeterminated host-plants: Las Trincheras, 15. 12. 91 (H. L.). — On withered, dry branches: The wood near Las Trincheras, 17. 12. 91 (H. L.). — On leaves: St. Esteban, 4. 1. 92 (H. L.). — On *Panicum divaricatum* L. and *Mangifera* sp.: Trinidad, Maravalli Valley, 30. 9. 91.

Myxotheca gen. nov.

Stroma epiphyllum, superficiale, tenue, membranaceum, structura indistincte pseudoparenchymatica, ambitu substrigosum, laeticolor. Asci in stromate singulatim sparsi, subglobosi, longiuscule stipitati, e centro communi $7-10$ (— plures) orientes, membrana gelatinoso-deliquescente, ideoque quasi intra locellos mucosos inclusi, nullo autem strato parietino a stromate cingente limitati. Sporidia oblonga, curvula, dense tessellato-muriformia, flavida, deliquescentia ascorum et delapsu stromatis liberata.

Genus quoad affinitatem ambiguum, Myriangiaceis, inprimis *Ascomycetellae*, characteribus nonnullis accedens, prope Plectascineas utique inserendum.

Myxotheca hypocreoides sp. n.

Stromatibus in epiphyllis hinc inde sparsis, e mycelio intracellulari ortis, plaguliformibus, rotundatis, ad 1 mm. diam., vix $\frac{1}{10}$ mm. altis, ex ascis maturis prominulis luteolis, zonula albida sterili substrigosa cinctis, membranaceis, structura tenuiter et indistincte pseudoparenchymatica. Asci in stromate singulatim sparsi, monostichis vel subdistichis, juvenilibus plerumque profundius immersis, maturis — stratis cingentibus incremento protrusis — parum supra superficiem stromatis prosilientibus, subglobosis, ovoideo-globosis vel citriformibus, $70-80\ \mu$ long., $50-70\ \mu$ lat. (membrana gelatinosa excepta), deorsum in stipitem circ. $5\ \mu$ crass. (membrana excepta), long. bis—pluries diametrum ascorum superantem, transeuntibus. Stipitibus singulis seu hyphis ascigeris e centro communi $7-10$ (— pluribus) egredientibus, evanescentibus. Membrana ascorum nec non stipitum mature gelatinoso-deliquescente, satis indistincte limitata, qua de causa asci singuli intra locellos gelatinosos inclusi et desuper visi circulo hyalino

circumscripti videntur. Sporidiis octonis, conglobatis, e dorso cylindraceo-oblongis, medio turgidulis, e latere curvatis, utrinque rotundatis, medio (intus) ventricosis, tenuiter tunicatis, densissime murali-cellulosis, [septis transversalibus fere 20, longitudinalibus minus perspicuis, in fronte qualibet

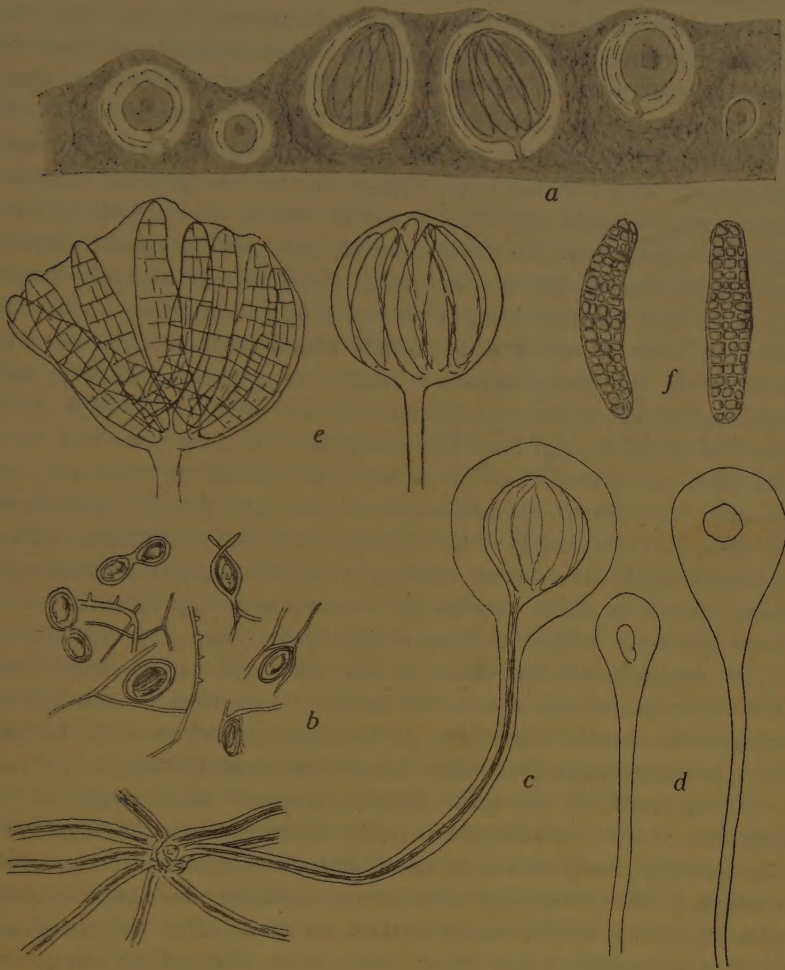


Fig. 2. *Myxothecha hypocreoides* gen. et sp. n.

a: Vertical section through a part of the stroma; *b*: Isolated peripheral hyphae with coccoidal algae; *c*: Bundle of ascigerous hyphae; *d*: Young asci with a great nucleus; *e*: Elder asci with spores; *f*: Spores, dorsal and ventral view. (*a*: $\frac{300}{1}$; *b*: circ. $\frac{1000}{1}$; *c* and *d*: $\frac{225}{1}$; *e* and *f*: $\frac{875}{1}$).

plerumque binis], $64-74 \mu \times 18-20 \mu$, maturis flavidulis, deliquescentia ascorum et delapsu stromatis liberatis.

Ad pinnas languescentes *Trichomanis pinnati* Hedw. in valle Maravalli dicta insulae Trinidad. Leg. H. Lassen.

The above described interesting fungus, which lives, probably as a parasite, on the pinnae of *Trichomanes pinnatum*, was collected in the Maravalli-valley in Trinidad by H. Lassen. Unfortunately the material is very scarce, as upon the whole only a few stromata are at hand.

The small, in alcohol greyish, stromata seem at first sight to be hypocreaceous; in drying up they collapse and thereby disclose their delicate, membranaceous structure. Under the microscope they are seen (in vertical section) to be composed of a very thinwalled, small-celled, somewhat indistinct parenchyma, in which the asci come into view. In the sterile margin (and on the surface) the stroma appears somewhat hyssoidous and as a rule the single hyphae can be distinguished; they are often uneven owing to very short branches, which project under a right angle. In many cases we have observed that these peripheral hyphae seize upon coccoidal algae (6—7 μ long.), the relation between the fungus and these algae however being of so superficial and fortuitous a character that there is by no means to be thought of a lichenisation (fig. 2 b). In the inner of the stroma appear a number of ascigerous cavities, each containing a single ascus; most frequently the asci are placed in 1—2 layers, as shows the fig. 2 a. The young asci are as a rule lying on a lower level and are encircled by a very thick gelatinous membrane; on increasing they distend the surrounding tissues and thereby approach to the surface of the stroma; the full-ripe ascus has a diameter almost equal to the height of the stroma and is provided with a gelatinous membrane, which, seen from above, appears as a conspicuous, light-refracting circle around the ascus. The liberation of the spores takes place by liquefaction of the asci and destruction of the upper part of the stroma; the tissues over the full-ripe ascus often project a little from the level of the surface of the stroma. There is no parietal layer around the single cavities, which however persist even when the asci are prepared out.

Owing partly to the great difference between the structure of the fungus and that of its substratum, partly to the fact that the single stromata are rather loosely affixed to the surface of the leaf we did not succeed in cutting good microtome-sections of the material; the nuclei however appearing distinct in the stained sections we observed in the young asci a very great nucleus. Far better results were obtained by cutting the material, enclosed in cork, with a razor, or by gently smashing the single stromata under the microscope. By this latter method we happened to establish that the asci arise terminally on hyphae, which in a number of 7—10 (— more) go out from a common starting-point (fig. 2 c). The walls of these ascogeneous hyphae, the length of which surpasses the diameter of the ascus twice or more, likewise deliquesce at an early stage, owing to which the proximal parts of the hyphae easily disappear,

the common origin of the latter thus being difficult to recognize. In this our fungus reminds of the *Microascus sordidus* Zukal (Bericht. Deutsch. Bot. Gesellsch. 1899 p. 297), the ripe asci namely appearing isolated in their respective cavities (fig. 2a).

When trying on base of the above investigations of the fungus to place it in the system a difficulty arises from the fact that its relatives evidently are to be sought for among little known forms, which are not until now decidedly placed themselves, namely the Phymatosphaeriaceae. This family was founded by Spegazzini 1888 (Fung. Guaran. II p. 55) and by this author looked upon as related to the Tuberaceae, differing however from these "vegetatione aërea parasitica vel saprophytica, minutie et toto habitu." Saccardo (Syll. VIII p. 743) repeats Spegazzini's remarks without adding any critical note. In his work: Ascomyceten der ersten Regnellischen Expedition (Bihang K. Svenska Vetensk.-Akad. Handl. Bd. 25, Afd. III nr. 1 p. 37) Starbäck reconsiders the question of the systematic placing of the Phymatosphaeriaceae, for which he claims the name Myriangiaceae, the genus *Phymatosphaeria* Pass. being identic with *Myriangium* Mont. et Berk. and this latter being formerly created¹⁾.

As chief-result of his examinations Starbäck states that the relationship between the Myriangiaceae and the Tuberaceae (i. e. the Plectascineae of Fischer) is not to be overlooked — while on the other side the Myriangiaceae are connected with the Hypocreales and particularly the Dothideales. According to this author a likeness with the Hypocreales is to be found in the structure of the stroma, while on the other hand a difference arises from the fact that the Myriangiaceae are totally wanting perithecium-walls. As to this character they are in accordance with the Dothideales, because of which the author puts forward the view that a fungus of *Myriangium's* typus is to be compared to a *Dothidea* with polystichous perithecia, whereof each contains a single ascus.

It seems to us that a connection between the Myriangiaceae and the Plectascineae of Fischer is more obvious at least as to such tender forms as *Ascomycetella* and *Cookella*. We have not been able to examine any material of the genus *Ascomycetella*, while a *Cookella* is at hand in Rabenhorst's Fungi Europ. et extraeurop. (*Cookella quercina* (Peck) Sacc., nr. 3040). The rather rich and well preserved material of this last fungus being submitted to a closer investigation we found a certain amount of likeness to *Myxotheca*, while on the other side there is a distinct difference between the two types. The stroma of *Cookella* though

¹⁾ In his treatise: Des genres *Atichia* Fw., *Myriangium* Mont. et Berk., *Nae-trocymbe* Koerb. (Strasbourg 1869) even Millardet states that the Myriangiaceae are to be regarded as genuine fungi, because of their being quite without gonidia during their whole course of development.

being thinner and less compact has the same structure as that of *Myxotheca*; in both fungi every single ascus is situated in a loculus, but in *Cookella* the asci are lying very closely together, sometimes pressing each other and by this reason becoming somewhat irregular (cfr. as to our fungus fig. 2 a); further, there is no trace of the long pedicels so characteristic in *Myxotheca*, as even the young asci are quite sessile. Finally there is a distinct resemblance between the asci of *Cookella* and those of higher ascomyceteous fungi (especially Perisporiaceae), the membrane being well limited and in younger asci thickened in the apex, while the ascus-membrane of *Myxotheca* at a very early stage becomes deliquescent and indistinct.

Thus *Myxotheca* is seen to present characters partly resembling to and partly differing from those of *Cookella*, the phylogenetic position of the first upon the whole appearing more primitive. In many respects the accordance between our fungus and lower forms of the Plectascineae is not to be mistaken; in this respect is namely to be pointed out: The loculi are quite without ostiola, and the spores become liberated by liquefaction of the asci and destruction of the stroma; the asci are developed from different starting-points; further the above mentioned unevenness of the peripheral hyphae suggests not unlikely a relation to the Gymnoascaceae (cfr. *Gymnoascus*, *Ctenomyces*). The long pedicels of the asci, joining in bundles from common starting-points — and the independence of the spore-apparatus in the face of the surrounding stroma: both these characters seem to be primitive. On the other hand the spores themselves have a highly differentiated form; it ought not to be overlooked, however, that muriform sporidia appear even on the still low phylogenetic level of the Myriangiaceae.

The definitive placing of the fungus in the system can be undertaken only when comparative examinations have been made on this too little known domain — and more new forms eventually have been discovered; until that *Myxotheca* most naturally finds its place among the Plectascineae in nearest relation, as it seems, to the Gymnoascaceae. Upwards, if this term be allowed, there are connecting points with the Myriangiaceae.

Nostocotheca ambigua Starb., which benevolently was sent to us from the Riksmuseum in Stockholm, presents no nearer connection with our fungus; macroscopically it appears rather *Erysiphe*-like, and also the microscopic characters seem to point towards the Perisporiales, namely thereby, that the asci of each glomerulus are aggregated in a sort of hymenium and separated from each other by paraphyses (cfr. Starbäck l.c.).

Trinidad, Maravalli Valley, 30. 11. 91.

***Nectria subquaterna* B. et Br. — fig. 3.**

Synonyms (sec. Weese in lit.). *N. squamuligera* Sacc. 1875, *N.*

granuligera Starb. 1892, *N. farinosa* (P. Henn.) A. Moell. 1897, *N. sub-squamuligera* P. Henn. et E. Nyman 1899, ? *N. botryosa* P. Henn. 1902, *N. subbotryosa* v. Höhn. 1907, *N. Cycadis* Rehm in herb. — The species enumerated are going over in *N. ochroleuca* (Schw.) Berk. (Grev. IV p. 16), within the range of which numerous species are belonging.

Dr. Weese of Vienna, who is at present monographing the genus *Nectria*, has most kindly determined our specimens of the above species on base of type specimens and given the above list of synonyms.

As the description by Berkeley and Broome is very incomplete we are here giving a detailed diagnosis and figures of this characteristic fungus.

Peritheciis nunc singulis, nunc in acervulos (stromatibus tuberculariis insidentes) pulvinatos, nonnumquam elongatos confluentesque coacervatis, globoso-subconicis, vestimento squamuloso profunde 5—9 longitudinaliter sulcato — ostiolis nudis exceptis — obsessis, indeque formam *Cerei* juvenis imitantibus, $\frac{1}{4}$ — $\frac{1}{3}$ mm. diam., rubro-aurantiacis, in sicco subochraceis. Ascis juvenilibus subfusoides, maturis cylindraceo-clavatis, tenuissime tunicatis, membrana sporidiis adjacente, 40 — $55\mu \times 5$ — 7μ , sessilibus. Sporidiis octonis, superne subdistichis, inferne monostichis, ellipsoideo-fusoides, 1-septatis, ad septum non constrictis, 10 — $14\mu \times 3\frac{1}{2}$ — $4\frac{3}{4}\mu$, hyalinis. Paraphysibus nullis.

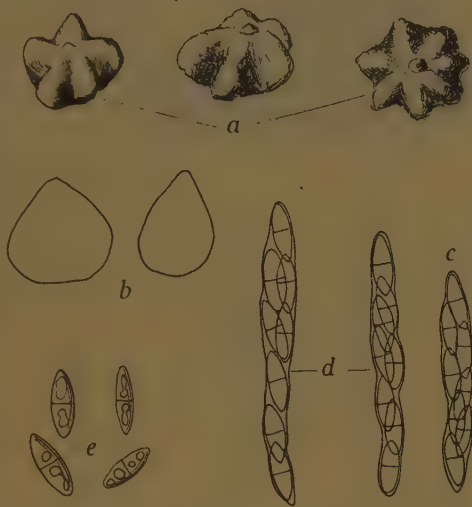


Fig. 3. *Nectria subquaternata* B. et Br.
a: Perithecia; b: Perithecia without covering; c: A young ascus; d: Ripe asci; e: Spores. (a: $\frac{45}{1}$; b: $\frac{70}{1}$; c, d and e: $\frac{800}{1}$).

Ad ramulos siccos corticatos prope Las Trincheras Venezuelae (Leg. H. Lassen).

The fungus grew in company with *Schizophyllum commune* Fr. and was collected near Las Trincheras, 14. 12. 91 (H. L.).

Pilocratera Hindsii (Berk.) P. Henn.

On earth: Venezuela, 4. 8. 91 (Eggers nr. 12413). — Trinidad, Maravalli Valley, 30. 11. 91 (H. L.).

***Pilocratera tricholoma* (Mont.) P. Henn., forma — fig. 4.**

Ascomatibus profunde urceolatis, 1—2 cm. diam., nunc sessilibus, nunc stipite tenui, 3 mm. long, 1 mm. crass. suffultis, flavidis vel flavido-isabellinis, disco paulo obscuriore, extus costis longitudinaliter e basi in cupulam porrectis anastomosantibus venoso-rugosis, pruinosis, setis rigidis, concoloribus, ad 4—5 mm. altis, inprimis circa marginem obsessis. Setis simplicibus, coremiiformibus, ad basim usque 135μ crass., apicem versus leniter attenuatis, ex hyphis dense septatis, $4-6\mu$ crassis, compositis.

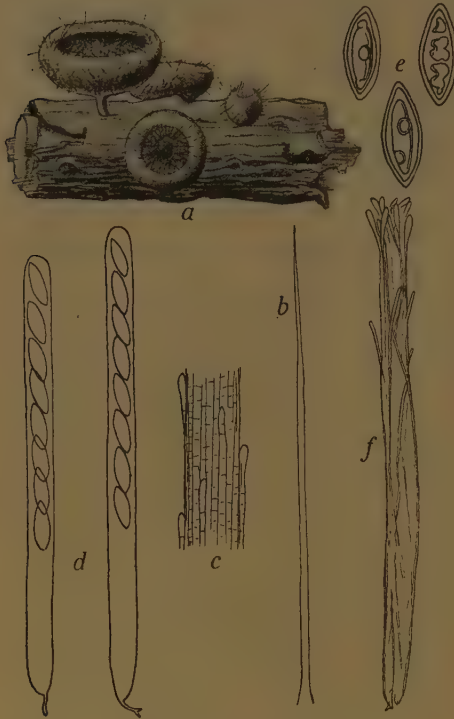


Fig. 4. *Pilocratera tricholoma* (Mont.)
Henn., forma.

a: Habitus of the fungus; b: A seta; c: Part of a seta; d: Asci; e: Spores; f: A "coremium" of paraphyses. (a: $\frac{1}{1}$; b: $\frac{15}{1}$; c: $\frac{175}{1}$; d: $\frac{225}{1}$; e: $\frac{400}{1}$; f: $\frac{835}{1}$).

Ascis perfecte cylindraceis, crasse tunicatis, superne rotundatis, inferne in hypham ascigeram subito transeuntibus, $270-340\mu \times 16-19\mu$. Sporidiis ellipsoideis, utrinque acutiusculis, continuis, 1-pluriguttulatis, crasse tunicatis, $30-37\mu \times 13-15\mu$, hyalinis. Paraphysisibus tenuissimis, ramosis, ascos obvallantibus, in fasciculos coremiiformes, plerumque 12μ crass. conglomeratis, apicibus liberis, subclavatis, flavidulis. J. ÷.

Ad lignum corticatum in monte Mt. Felix dicto Novae Granatae (leg. Eggers) et in silva insulae Trinidad. (Leg. H. Lassen).

Our specimens of the above species, which has been hitherto somewhat incompletely described, are differing from the type especially as to dimensions of the spores ($30-37\mu \times 13-15\mu$ against $30\mu \times 10\mu$).

To judge from the description *Pilocratera Engleriana* P. Henn. is quite identical with

P. tricholoma as to the macroscopical appearance, and in microscopical regards it is only differing by having the spores somewhat broader ($14-17\mu$); by comparing, however, the form above diagnosed, which is found in the middle of the American area of *P. tricholoma* and undoubtedly is to be conferred to this species — it seems justified to suppose that also

P. Engleriana belongs within the range of *P. tricholoma*. As to the geographical distribution *P. tricholoma* is known from America and Ceylon, *P. Engleriana* is recorded from Kamerun.

Colombia, Mt. Felix, 1. 12. 89 (Eggers). — Trinidad, Maravalli Valley, 28. 11. 91 (H. L.).

Deuteromycetae.

Asterostomella paraguayensis Speg.

On the upper side of cacao-leaves. Our fungus shows a growth somewhat differing from that of the type, occurring namely in preference as a rather extended cover near the midrib of the leaves. Trinidad.

Coniosporium Bambusae (Thüm. et Bolle) Sacc.

Coniosporium pulvinatum A. L. Smith seems after the description not to be different.

On splinters of bamboos: Trinidad, Botanical Garden.

Penicillium glaucum Link

On bark: Las Trincheras. — On wood: Trinidad, 24. and 29. 11. 91 (H. L.).

Podosporium rigidum

Schw. — fig. 5.

The figure of this fungus by Schweinitz (Syn. Fung. Amer. bor. t. XIX fig. 1, in Trans. Americ. Philos. Soc., Vol. IV, New Series, 1834) partly being somewhat indistinct, partly difficult of access¹⁾ we are here giving a new figure of it. The fungus grows as widely extended black covers on the band-like stem of a *Bauhinia* and is occurring in two different forms: most frequently it appears rather low and each caespitulum is composed of a bundle of stiff, brown, as a rule sterile hyphae, which are going out from a stroma being half-hidden under the periderm and formed as a truncated cone (*Exosporium*-form); in other cases, however, occurs the



Fig. 5. *Podosporium rigidum* Schw.
a: A coremium with conidia; b: A conidiophore bearing a conidium; c: Conidia.
(a: 200/1; b: 200/1).

¹⁾ The plate in question thus was lacking in the copies of the above work in the Danish libraries, and we are much indebted to dr. Weese of Vienna, who was kind enough to send us a copy of the figure.

Stilbum-form as coremia being until 2 mm. in height. As shows the figure these coremia are producing conidia from their whole surface; the conidia are cylindric-clavate or obpyriform, 2—3 septated, $50-60\mu \times 18-20\mu$, and the average breadth of the conidiophores, which are somewhat varying in length, is about 10μ .

On bark of *Bauhinia* sp.: Las Trincheras, 15. 12. 91 (H. L.).

***Sterigmatocystis dipus* sp. n. — fig. 6.**

Hyphis repentibus septatis, $4-6\mu$ diam., hyalinis; fertilibus dipodibus, stricte erectis, non septatis nec ramosis, circ. 1 mm. alt., $13-18\mu$ crass., membrana 2μ crassa praeditis, superne vesiculoso-inflatis, hyalinis, capitulum conidiorum globosum, fusco-nigrum, circ. 150μ diam., gerentibus. Vesica globosa, hyalina, $40-45\mu$ diam., e basidiis affixis crebre punctata. Basidiis radiantibus, cylindraneo-clavatis, $15-25\mu$ long., superne $5\frac{1}{2}-7\frac{1}{2}\mu$ crass., granuloso-farctis, fusciculis, sterigmatibus plerumque 3 curte bacillaribus nec non subcuboideis, $7-9\mu \times 5\mu$, concoloribus coronatis. Conidiis catenulatis, inter se filamentis hyalinis, ad 5μ long., circ. $\frac{1}{2}\mu$ crass. conjunctis, globosis, $7-8\frac{1}{2}\mu$ diam., fuscis, verrucis echinatis, ad 1μ long., hyalinis, nonnumquam deciduis, ornatis.

Ad fructus semiputridos *Theobromatis Cacao* L. socia *Stilbochalara dimorpha* nobis prope Las Trincheras Venezuelae. (Leg. H. Lassen).

On decaying fruits of cacao: Las Trincheras, 25. 12. 91 (H. L.).

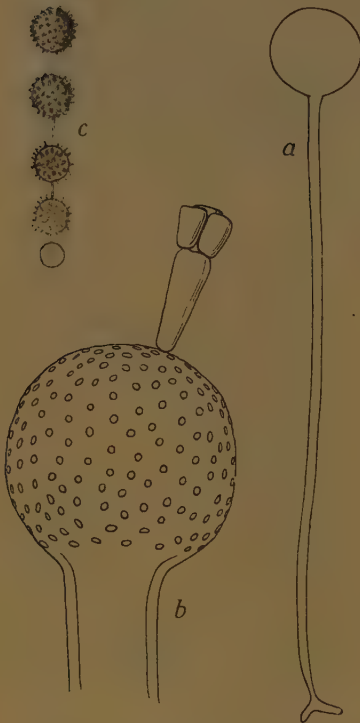


Fig. 6. *Sterigmatocystis dipus* sp. n.

a: A conidiophore; b: The upper part of a conidiophore with a single basidium; c: Part of a spore-chain. (a: $\frac{75}{2}$; b and c: $\frac{450}{1}$).

***Stilbochalara* gen. nov.**

Genus phaeostilbeum, conidia endogena *Chalarae* modo gignens. — Est *Chalara stilbiformis*.

***Stilbochalara dimorpha* sp. n. — fig. 7.**

Synnematibus $2-2\frac{1}{2}$ mm. altis, ad basim cylindraceis, alterum altero coalitis, nigro-fuscis, sursum liberis, penicillatis, e conidiis albo-pulverulentis.

Hyphis singulis pro ratione tenuissimis, flexilibus, sæpius ramosis, fuscis, crebre septatis, $4-5\mu$ ut plurimum crassis, superne *Chalaræ* modo apertis, tubuliformibus, paulum infra tubulam apertam crassitudinem maximam, usque 9μ , attingentibus. Conidiis endogenis, seriatim e tubulis protrusis, dimorphis, aliis numerosissimis, hyalinis (catervatim brunneolinctis), cylindricis, utrinque truncatis, membrana tenui, intus vacuolatis, $10-12\mu \times 4-5\mu$, aliis paucioribus, fuscis, ut plurimum ellipsoideo-cylindricis, membrana crassiore, $1-2$ vacuolatis, $10-13\mu \times 5\frac{1}{2}-6\frac{1}{2}\mu$, paucis infra ultrave. Conidiis fuscis in cellulis propriis versus basim synnematis præcipue formatis, paucis autem, caractere sæpe intermedio, in iisdem tubulis, in quibus conidia hyalina gignuntur, inventis, semperque, quod si evenit, infra hyalinas observatis.

Ad fructus semiputridos *Theobromatis Cacao* L., Las Trincheras Venezuelæ. Aderat *Sterigmatocystis dipus* nobis. (Leg. H. Lassen).

The coremia being connected with each other at their base the fungus forms a tomentose cover over the substratum; the single coremia produce from their upper part an endless multitude of hyaline, thin-walled conidia, and their habitus comes near to that of a *Stilbum*, to judge from a note of the collector: "Fungus, white-greyish in the top". — While the *Chalaræ* until now are known but in dematieous forms, i. e. the conidiophores are always isolated, simple or seldom slightly ramified hyphæ, it has by the discovery of this fungus been established that also forms of the *Stilbum*-typus are included in the family. The presence of this typus was beforehand to be expected, as so many hyphomycetes with exogene conidia are forming coremia, and as also in a well-known subgenus of *Chalara* (*Synchalara* v. Höhn.) the conidiophores are crowded closely together on a byssoideous subiculum.

As to the dimorphic conidia this phenomenon is previously noted within the range of the *Chalaræ*. Thus *Chalara heterospora* Sacc. presents partly $1-3$ septated, partly continuous conidia, and in *Thielaviopsis paradoxa* (de Seyn.) v. Höhn. is found, besides hyaline endogene conidia, oidium-like chains of bigger, brown, apparently exogene conidia. As to the dimorphic conidia of this fungus, v. Höhnel states (Hedw.

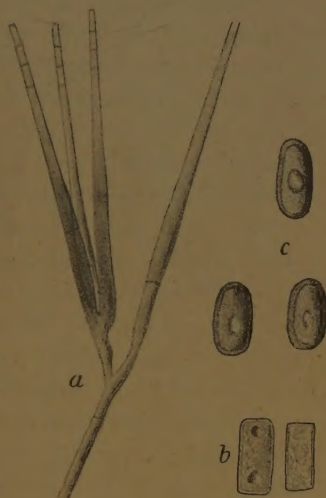


Fig. 7. *Stilbochalaradimorpha* gen. et sp. n.

a: Conidiophores from the upper part of the coremium; b: Hyaline, thin-walled conidia; c: Brown, thick-walled conidia. (a: $\times 220/1$; b and c: $\times 775/1$)

XLIII p. 295) that both forms can be referred to the same typus, that of the endogene conidia. "Zwischen beiden Sporenformen findet man alle Uebergänge, indem sich aus den hyalinen Sporen die dunklen grösseren entwickeln können. Dies geschieht aber nicht immer. Nicht selten bleibt die ganze Kette hyalin, oft sieht man solche Ketten, in denen ein Teil der Sporen hyalin, ein anderer dunkel ist. Manchmal findet das Ausreifen der Sporen so rasch statt, dass man noch in der Fruchthyphie eingeschlossene reife schwarze Sporen sieht. Die hyalinen Sporen stellen daher keine besondere Sporenform dar, sondern nur ein Entwicklungsstadium der braunen, auf dem diese letzteren zurückbleiben können. Die eigentlichen fertigen reifen Sporen sind die braunen". (v. Höhnelt l. c., cited from Rabenhorsts Kryptogamenflora I, 8, p. 757).

While also v. Höhnelt states that "the spores properly so called" are represented by the brown ones, he admits on the other hand that the hyaline conidia not always are transformed into the brown ones but can remain at their earlier stage of development. — As to our fungus the production of the hyaline, thin-walled conidia is by far predominant and seems to be a quite normal form of sporulation (indeed these conidia have thoroughly the same aspect as shows generally *Chalara*-spores). It is a matter of fact that the conditions under which the brown, more thick-walled conidia become developed cannot be explored only preserved material being at hand; the thickening, however, of the membrane points towards their character of resting-spores, and not unlikely they are able to help the plant through unfavourable periods. As appearing from the diagnose the brown conidia can be found in the same tubuli as the hyaline ones (and often presenting an intermediate aspect), quite as in *Thielaviopsis*; especially, however, their formation is confined to tubuli near the basis of the coremium, i. e. as far localized. This fact suggests — coupled with the thickening of the walls in the brown conidia — that the dimorphism in this species is normal or at least being about to become established.

On decaying fruits of cacao: Las Trincheras, 25. 12. 91 (H. L.).

